

CLAIMS

1. A device for the exchange of heat, having at least one flow device and at least one collection and/or distribution device connected to the at least one flow device at a connection point, in conjunction with which the at least one flow device exhibits a flat tubular cross section having one long side and one short side in relation to the long side, as well as a predetermined flow device length, in conjunction with which a fluid under high pressure is capable of flowing through the at least one flow device and the at least one collection and/or distribution device, characterized in that the at least one flow device exhibits a linear course over the entire length of the flow device along a longitudinal axis of the flow device, and in that the long side of the flat tubular cross section exhibits a length in the order of approximately 5 mm to 6.1 mm, and in particular 5 mm to 5.9 mm, and in that at the connection point, the long side of the flat tubular cross section of the flow device exhibits an angle of approximately 90° in relation to a principal direction of extension of the collection and/or distribution device.
2. A device as claimed in claim 1, characterized in that the short side of the flat tubular cross section of the flow device exhibits a length of approximately 1 mm to 2 mm and/or the length of the flow device is approximately 200 mm to 800 mm.
3. A device as claimed in at least one of the foregoing claims, characterized in that the flow device exhibits at least one internal flow channel running essentially parallel with the longitudinal axis of the flow device, and preferably a plurality of internal flow channels running essentially parallel with the longitudinal axis.

4. A device as claimed in the foregoing claim, characterized in that, in its cross section, the at least one flow channel exhibits a form which is essentially circular, elliptical, polygonal or rectangular, or a combination of mixed forms of these.

5. A device as claimed in at least one of the foregoing claims, characterized in that the device exhibits a plurality of the flow devices, each of which is connected to the at least one collection and/or distribution device and/or which are arranged essentially on at least one level and/or are arranged essentially parallel with one another.

6. A device as claimed in the foregoing claim, characterized in that the plurality of flow devices are arranged on two levels.

7. A device as claimed in the foregoing claim, characterized in that the device exhibits two collection and/or distribution devices, of which each is connected to one end of the at least one flow device.

8. A device as claimed in one of the foregoing claims, characterized in that the at least one collection and/or distribution device exhibits a tubular cross section, in conjunction with which an internal diameter of the tubular cross section of the collection and/or distribution device is approximately equal to the long side of the flat tubular cross section of the flow device.

9. A device as claimed in one of the foregoing claims, characterized in that the fluid flowing through the at least one collection and/or

distribution device is a cooling medium and/or is under a pressure of approximately 125 bar.

10. A cooler, in particular a gas cooler,  
5 and/or an auxiliary heater with a device as claimed in one of the foregoing claims, characterized in that the cooler and/or the auxiliary heater exhibits a plurality of the flow devices, each of which is connected to the at least one collection and/or distribution device  
10 and/or which are arranged essentially on at least one level and/or are arranged essentially parallel with one another, and in that the cooler and/or the auxiliary heater exhibits a plurality of ribs, which are arranged between neighboring flow devices essentially  
15 perpendicular to the longitudinal direction of the flow device in each case, in order to promote an exchange of heat between the air and the fluid.

11. A device for the air conditioning of air  
20 introduced into the interior of a motor vehicle, having at least a compressor, an evaporator and/or auxiliary heater, an expansion valve and a cooler, in conjunction with which at least an auxiliary heater and/or a cooler is as claimed in claim 10.

25 12. A method for producing a device for heat exchange, characterized in that, in accordance with the method, a connection is produced at a connection point between at least one flow device and one collection  
30 and/or distribution device, which connection is taken from a group that contains soldered, welded or adhesive bonded connections, in conjunction with which the at least one flow device

- exhibits a flat tubular cross section having a long  
35 side with a length in the order of approximately 5 mm to 6.1 mm, and in particular 5.9 mm, and having a short side in relation to the long side;

- exhibits a predetermined flow device length;
- accommodates the flow of a fluid under high pressure, and
- exhibits a linear course over the entire length of the flow device along a longitudinal axis of the flow device,

in conjunction with which a fluid under high pressure is capable of flowing through the at least one collection and/or distribution device, and in conjunction with which, at the connection point, the long side of the flat tubular cross section of the flow device exhibits an angle of approximately 90° in relation to a principal direction of extension of the collection and/or distribution device.